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THE IMPACT OF NATIONAL CULTURAL DISTANCE ON DEAL COMPLETION OF CROSS-BORDER M&AS TARGETING FIRMS IN BRAZIL

FELICITAS JOHANNA MARIA KÖCK, 41389

A Project carried out on the Master in Management Program, under the supervision of:

Professor Youtha Cuypers

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Abstract

This study contributes to current M&A literature by investigating how differences in national culture influence deal completion of cross-border M&As targeting firms in Brazil, by exploring the effect of differences in four cultural dimensions. A binary logistic regression is estimated based on a sample of 1903 deal attempts between 2007-2017. The results suggest that the influence of national cultural distance is not as detrimental as assumed in the international business literature and that national cultural differences can positively influence deal completion; however, special attention needs to be paid to this issue.

Keywords

cross-border M&As, deal completion, national cultural distance, M&A experience, emerging markets, Brazil

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1. Introduction

Intending to increase their strategic competitiveness and firm value, companies often seek growth through mergers and acquisitions (M&As). The Institute for Mergers, Acquisitions and Alliances reports nearly 50,000 global M&As in 2019, with a total value of $3,370 billion (Imaa 2020a). Globalization and the deregulation of multiple industries in many economies around the world are regarded as reasons for the popularity of M&As. However, most deals fail to achieve their strategic goals and result in poor returns, with some M&A transactions not even reaching deal closure. This is due to the many obstacles that such transactions involve, such as the difficulty of correctly evaluating the target firm's value, the overestimation of synergy potential, the creation of a firm that is too large and diversified, as well as the difficulty of effectively integrating the two companies (Hitt et al. 2016). When M&A transactions are managed between two companies based in different countries, there are some additional difficulties to overcome, such as political and regulatory restrictions as well as differences in the involved firms' national culture.

Especially the impact of cultural differences between the two merging firms' home countries on various stages of the cross-border M&A process is much discussed in international business literature. Most studies focus on the effect of national cultural distance on M&A integration and performance, while very few address its impact on earlier stages of the M&A process. However, especially when the transaction involves one party from an emerging market, the pre-deal stage is crucial to look at as the completion rate of such deals is relatively low. In emerging markets, about one-third of announced M&A deals do not close the deal in the end (Popli and Kumar 2016). Hence, both from a research perspective and from a managerial point of view, it is important that companies understand how national cultural differences impact the likelihood of deal completion in emerging markets, which is the key idea of the present study.

In the next sections, a literature review provides theoretical background, before the research question and hypotheses are developed. The concepts of cross-border M&As, national culture, and prior studies on the effect of national cultural distance on cross-border M&As, particularly on deal-completion, are being introduced. After that, the following sections present the analysis, its data and sample, measures, and statistical method. Finally, the results derived from the models are being presented and discussed.

2. Theory

2.1 Literature Review

This study is anchored in a stream of research that addresses the importance of national culture on cross-border M&As and the constraints of deal completion, which will be reviewed in the following. In this paper, the terms “M&As”, “M&A transactions” and “M&A deals” will be used interchangeably to describe the "consolidation of companies or assets through various types of financial transactions, including mergers, acquisitions, consolidations, tender offers, purchase of assets, and management acquisitions." (Hayes 2020)

2.1.1 Cross-border M&As

With the expansion of free trade between the world's economies, more and more companies are completing cross-border M&As. In 2019, almost a third of global M&As were crossing borders (Imaa 2020b), even though most M&As and especially cross-border M&As fail at some stage of the transaction (Galpin 2014). Achieving economic and strategic benefit through cross-border M&As requires successfully navigating through every stage of its complex process and finally managing to enhance the combined firm's economic value.

Galpin (2014) divides the process of an M&A transaction into eight stages, four pre-deal phases, Formulate, Locate, Investigate, and Negotiate, and four post-deal phases, Integrate, Motivate, Innovate, and Evaluate (Galpin 2014). Various difficulties arise in each of these phases, especially

when the transaction crosses a border. Problems in the pre-deal phase often lead to deal abandonment, which brings huge losses to the firms, as there are substantial up-front costs in the pre-deal stage of a cross-border M&A: At the beginning of the process, a bidder pays significant search expenses to identify a suitable target. The negotiation phase also requires outside accounting services, financial and legal advisers, and the payment of additional fees. Apart from explicit financial losses, also implicit costs result from abandoning an announced M&A deal. In the investigation phase, the bidder discloses valuable private information, such as its post-acquisition plans. Besides, in the negotiation phase, the involved firms forgo other M&A opportunities (Dikova et al. 2010). Deal abandonment further damages a company's global reputation and image (Popli and Kumar 2016). These arguments suggest that the pre-deal phase of the cross-border M&A process and particularly the likelihood of deal completion are relevant subjects of study, to help increase the completion rate of cross-border M&A deals in the future.

2.1.2 National cultural distance in cross-border M&As

Culture has featured prominently in M&A literature for a long time. Cartwright (1998) is among the first scholars to state that considerably more emphasis should be placed on national cultural distance in international business (Cartwright 1998). Literature recommends to managers who carry out cross-border transactions to consider national culture (Morosini et al. 1998) and believes that differences in the cultures of the involved party’s home countries constitute the main characteristic of international, as distinct from domestic operations (Johanson and Vahlne 1977). David and Singh (1994) see cultural compatibility as a prerequisite for the success of a cross-border expansion (David and Singh 1994).

In addition to the recommendations of individual scholars to consider national culture in a firm's expansion strategy, the fact that numerous studies have shown great interest in the topic confirms the general importance of national cultural factors in cross-border M&A dynamics.

2.1.2.1 Hofstede's concept of culture

In the context of international business, scholars define national culture in various ways. The lack of an overarching definition is an indication of how multifaceted culture is. The definition most referred to, which is also being based on in this paper, is formulated by Hofstede, who describes culture as "[…] the collective programming of the mind that distinguishes the members of one group or category of people from others." (Hofstede et al. 2010) National cultures are rooted deeper in the human mind than organizational cultures, which are acquired in the workplace and changed when switching jobs (Hofstede 2011). The concept of national culture by Hofstede can be summarized as the relative differences in values between nations, yet, what seems more relevant to Hofstede than the mere definition of national culture, is the construct upon which it is built: it consists of the so-called cultural dimensions, to which national cultures can be broken down and be numerically compared.

Hofstede identifies six cultural dimensions: Power Distance (PDI), Individualism (IDV), Masculinity (MAS), Uncertainty Avoidance (UAI), Long Term Orientation (LTO), and Indulgence (IVR). Each dimension has two extreme poles and offers scores from zero to 100 (Hofstede et al. 2010). These scores are relative and to be used for comparison. Hence, with Hofstede's data, scientists can assign a numerical value to each nation studied and in each dimension and then compare and analyze cultural differences. This is also the approach followed in this paper..

2.1.2.2 National cultural distance and cross-border M&A

As pointed out earlier, scholars find national culture to be a critical factor of cross-border M&As. Most studies examine its effect on several post-deal phases of a transaction. Looking at M&A integration, studies claim cultural differences to be either beneficial or detrimental. Some scholars state that managing across borders and being confronted with a different culture positively

changes the way the acquiring firm approaches the integration phase of their target firm. The presence and awareness of cultural differences in cross-border deals lead to more mindfulness in general and finally a better integration (Lubatkin et al. 1998, Pitkethly et al. 2003). On the other hand, Olie (1990) claims cultural distance to be the major contributor to the failure of the integration phase (Olie 1990). This is mirrored by Weber et al. (2011), who conclude that national culture fit influences the acquirer's choice for the level of integration and ultimately determines this stage's success in cross-border M&As (Weber et al. 2011).

Also, studies investigating the effect of national cultural distance on post-acquisition performance show mixed results. However, the majority finds empirical evidence that it positively impacts M&A performance in the long term, for example, by discovering that it can enhance performance as valuable routines and repertoires from both national cultures are accessed (Morosini et al. 1998). Larsson and Risberg (2013) also attribute a better acquisition performance to cultural differences in cross-border M&As compared to domestic expansions. The scholars justify this, similar to Lubatkin et al. (1998), on the grounds that managers might give more weight to cultural issues than they do in domestic M&A, where cultural matters may be taken more for granted (Larsson and Risberg 2013). Moreover, research on the post-acquisition turnover of acquired firm executives and find evidence for a higher turnover of cross-border than domestic acquisitions (Krug and Hegarty, 1997).

To sum up, M&A literature shows confusing results on how cultural distance affects the post-deal stage of an M&A. Some scholars even report differences in national cultures to be both harmful and beneficial, depending on the research design, e.g., by reporting that effects of cultural distance on M&A performance vary by the degree of relatedness, the specific cultural dimension that distinguishes the two companies, and how the sample is designed (Stahl & Voigt 2008). Also Weber et al. (2011) attribute the contradiction in research to the fact that studies differ in terms of

sample size and characteristics, regional focus, data collection method, and the definitions of culture and/or successful M&As, which leads to different conclusions about the relationship between national culture and M&A performance (Weber et al. 2011).

2.1.2.3 National cultural distance and M&A Deal completion

Taking into account the high failure rate in the pre-deal stage of M&As – especially when emerging markets are involved – and its costly consequences, it is crucial to investigate how national cultural distance impacts the likelihood of a deal reaching closure in the first place.

In general, most scholars identify a negative impact of cultural differences on deal completion. Reis et al. (2013) classify national cultural differences as part of the concept of social distance. They propose that a greater distance between acquirer and target nations' social institutions reduces the likelihood of completing an announced M&A deal (Reis et al. 2013). Dikova et al. (2010) find that differences in national formal and informal institutions between firms of developed markets explain part of the variation in the likelihood that announced cross-border M&A deals are completed. Analyzing cross-border deals of firms in the international business service industry from 1981-2001, the researchers add that experience moderates this impact in a way that prior experience with completed cross-border M&A deals increases the chance of the focal deal to be closed (Dikova et al. 2010). Zhou et al. (2016) agree with this finding for M&As from developed to emerging markets and state that the greater the cultural distance, the stronger the negative impact on deal completion. Similar to Dikova et al. (2010), they report that prior experience in cross-border M&A activities moderates this effect (Zhou et al. 2016). Additionally, Popli and Kumar (2016) analyze the role of marginal cultural distance on cross-border M&A deal completion, stating that cultural misunderstandings are caused by unconscious cultural blindness, a lack of cultural knowledge, projection of similarities, and parochialism. The researchers claim that cultural differences create problems for understanding nonverbal issues and that the inability

to accept and adapt to the beliefs of the other party leads to conflicts in the negotiation process, which often result in deal abandonment (Popli and Kumar 2016). Consistent with Zhou et al. (2016) and Dikova et al. (2010), Popli and Kumar (2016) stress the importance of learning from cross-border M&As for emerging markets. The scholars confirm that the M&A experience of a firm from an emerging market can reduce the negative impact of cultural distance in their later deals attempts (Popli and Kumar 2016). Muehlfeld et al. (2012) investigate whether learning patterns in response to prior successes and failures impact the completion of an announced transaction in the newspaper industry from 1981-2008 and find that learning from success can enhance future performance. However, according to the scholars, this learning effect depends on the context: The positive impact of experience turn negative when a large number of transactions has been completed and a firm's experience becomes too much (Muehlfeld et al. 2012).

2.1.3 Deal completion in the emerging market Brazil

Many studies in international business analyze cultural effects on M&As in and out of developed markets, while, apart from the few studies mentioned, emerging markets have largely been ignored in this context. However, M&As are significantly different when emerging markets are involved due to, among other factors, distinct institutional environments and corporate governance practices (Lebedev et al. 2015). Hence, many results cannot be generalized and transferred to the context of emerging markets. Therefore, as Popli and Kumar (2016) emphasize, "[…] it is necessary to focus on deal completion issues in an emerging-market internationalization context." (Popli and Kumar 2016, p.533) Especially because a higher percentage of announced M&A deals do not reach deal closure when emerging markets are involved, and the transaction costs of pre-deal stages, like negotiations, are generally higher in emerging markets than in developed markets (Lebedev et al. 2015).

The regional focus of this study is the emerging market Brazil. In 2019, Brazil registers the highest number of M&A deals in Latin America, with a total of 1.231 M&A transactions – an increase of 27% compared to 2018 (Gallo et al. 2020). There are several key advantages to business activities in Brazil, which is mainly the immense economic size of this market. With a GDP of 1.87 US$ trillion in 2018, Brazil is reported to be the 9th biggest economy in the world and the 5th biggest in terms of surface and population. Yet, there is still space for economic growth, and São Paulo, considered the main business hub of Latin America, serves as the gate to enter the continent (Capital Invest 2020). The Brazilian market's main foreign investor is North America, performing 9% of its M&A activities in 2019 (Deloitte 2020).

Sales and Zanini (2017) report several reasons for the abandonment of M&A deals in this emerging market. Lack of information, unrealistic expectations concerning business valuation, tax-related risks, window dressing, a lack of governance, informalities, and questionable corporate practices. Moreover, cultural aspects are more underestimated in the pre-deal phase of M&As in Brazil than in developed markets and regarded as risky for deal-making when managers experience cultural differences in practice (Sales and Zanini 2017). Cultural differences greatly affect the way of doing business; understanding these cultural differences is an important prerequisite for successful M&A deals in Brazil (Capital Invest 2020).

These arguments suggest studying the effect of national cultural distance on cross-border M&A targeting firms in an emerging market, with Brazil being an interesting geographical focus.

2.2 Research question and hypotheses

The literature review reveals that empirical research fails to identify how national cultural differences affect cross-border M&A deal completion when acquirers target firms in an emerging market. Research agrees on the fact that differences in the national cultures of two merging firms affect several phases of the M&A process, yet, the majority of studies addresses this impact on

the phases after deal closure, although a significant effect on the pre-deal stage is evident and the abandonment of an announced deal is costly. Therefore, further investigation of this particular stage is essential. Besides, most studies on the relationship between national cultural distance and M&As date way back in time. Hence, although an attempt could be made to transfer findings from cultural effects on post-deal phases of M&As to the pre-deal stage of M&As, few recent studies on this topic can be found. Even though a countries' cultural patterns have old historical roots, culture does change when there is a shift in technological and economic conditions (Hofstede et al. 2010). Globalization, the growing global networking of economies, and the increasing international mobility since the early 2000s cannot be neglected. The trends towards increasing economic integration across national boundaries, additionally to the spread of the Internet, may have reduced the risk of a real culture clash, as cultures are not as unknown to each other as before. What is more, relatively few studies examine M&A deal completion in emerging markets even though such M&As differ from transactions with developed markets participating. As their deal completion rate is lower while their pre-deal transaction costs are higher, more in-depth research on emerging markets, such as Brazil, is necessary. Taken together, the arguments suggest to study the following research question:

> *How does national cultural distance impact the likelihood of deal-completion of cross-border M&As targeting firms in Brazil?*

Galpin (2014) includes the detailed assessment of the involved national cultures in cross-border M&As as early in the second and third phase after the deal announcement, Locate and Investigate. The scholars stress that a thorough and systematic cultural analysis is required for comprehensive due diligence to determine the fit between the involved firms. After that, the effects of cultural disparity start to become problematic, especially in the negotiation phase (Galpin 2014). This is assumed to be due to several reasons.

First, a great difference in how the two involved countries value the distribution of power may lead to a dispute in this phase. Some cultures work with strong hierarchies, whereas other cultures demand a fair distribution of power, and autonomy is valued more. In the negotiation phase, the involved parties decide on the structure of the later, combined firm's management, which is why the disparity in the degree to which a nation views power distribution may be detrimental to the negotiations. Conflicting expectations in terms of power distribution, as well as different negotiation approaches due to different management styles may impede a deal's closure. Based on this argument, I present the first hypothesis:

Hypothesis 1: Distance in the power distance dimension is negatively associated with the deal completion of cross-border M&As to Brazil.

Second, the individualism anchored in the involved parties' national cultures may be an obstacle in deal negotiations. The level of individualism shows whether a country has a preference for either a loosely-knit social framework or a tightly-knit social framework. Individualism in a national culture leads to judgment biases in negotiation and impedes its outcome (Gelfand et al. 2002). Besides, more individualistic countries tend to be authoritative and pushing. In contrast, collective-oriented prefer harmony and minimized disruption in negotiations. Executives from countries who differ in this cultural dimension tend to adopt different strategies to resolve conflicts, develop different expectations about the negotiation outcomes, and are usually motivated by different causes (Tse et al. 1994). These disparate preferences are expected to harm whether M&A deal-completion in the end, which suggests the following hypothesis:

Hypothesis 2: Distance in the individualism vs. collectivism dimension is negatively associated with the deal completion of cross-border M&As to Brazil.

Third, the attitude towards risk, hence whether or not a country is comfortable with uncertainty and ambiguity, may be an obstacle in deal negotiations. Dikova et al. (2010) state that in countries

with high uncertainty avoidance, the planning and decision-making processes are regarded as important and take a longer time. Different attitudes on how much risk to involve and how to deal with uncertain outcomes are assumed to hinder the closure of an announced M&A deal, which suggests the third hypothesis:

Hypothesis 3: Distance in the uncertainty avoidance dimension is negatively associated with the deal completion of cross-border M&As to Brazil.

Finally, while negotiating the deal, the outcome is affected by whether a culture embraces changes. Some cultures prefer to maintain time-honored traditions, while others encourage efforts to prepare for the future. When the countries negotiating a cross-border M&A deal differ greatly in the way they are open to changes, innovative structures, and losing old traditions, arising conflicts are expected to impact deal-completion negatively. Therefore, the final hypothesis assumes the following:

Hypothesis 4: Distance in the long term orientation dimension is negatively associated with the deal completion of cross-border M&As to Brazil.

Hence, this study examines the effect differences in four different aspects of national culture on deal completion. Although those aspects are all assumed to influence M&A deal completion negatively, they are not summarized in an overall hypothesis, as the analysis seeks to find out how each variable differs in the level of its impact, which is what prior studies suggest for future research (e.g., Dikova et al. 2010).

3. Methodology

3.*1 Data and Sample*

The sample of this paper is 1903 cross-border M&A deals with an announcement date between 2007 and 2017. Deal attempts of 10 years and up to 3 years before this analysis are examined – a time where globalization, technological advancement, and the spread of the internet already play

a role in international business. To obtain information on each firm's M&A experience, data on additional 20 years prior to the sample start date are assessed.

The data about M&A transactions is derived from Thomson Reuters' SDC - Mergers and Acquisitions, the leading global financial database covering over one million M&A deals worldwide. The entire database is applied to this sample, which avoids any self-selection bias, such as restricting the sample to certain industries, acquirer nations, and firm sizes. However, the sample is does only include cross-border deals that target Brazilian firms, so domestic M&As are excluded from the beginning. All data about cultural distance is obtained from Hofstede's national cultural dimensions scores from the book *Cultures and organizations: Software of the mind. Revised and Expanded 3rd Edition* (Hofstedeet al. 2010). This study's dataset includes information about the name, nation, and industry of both the target firm and the acquiring firm. Further, financial details and the target's firm's intentions before the deal are being recorded. As only deals are taken into account which have made it to deal announcement, all attempted cross-border deals that were abandoned before this stage are not included in the sample. However, this does not limit the analysis much, as this study assumes national cultural distance to affect the likelihood of deal completion during the negotiation phase, which occurs after the deal announcement. Nevertheless, transactions that were decided and executed entirely in private are not captured by SDC - Mergers and Acquisitions, which is an unavoidable limitation of this analysis, and must be taken into account when interpreting the results.

Exactly 1903 announced cross-border deals are recorded, of which 73.8% were closed. This completion rate is similar to what prior studies have found for deals with emerging markets involved (e.g., Zhou et al. 2016). With a share of 30.48%, most acquirers in the sample are firms based in the USA; France and Canada hold a share of 8.04% and 7.62% (Appendix B). Further, the analyzed acquirers in the sample are mostly in the metals and mining, financials, or

professional service industry, while most of the target firms operate in metals and mining, professional services, or chemicals. Hofstede's data about national cultural differences miss information about the culture of a few of the acquirers' home nations, which limits the initial analysis to the countries with enough cultural information.

3.2 Measures

The dependent variable of this study is *Acquisition completion,* a dummy, dichotomous variable which equals 1 if the announced acquisition is completed and 0 if it is not. Non-completed deals not only include announced deals that are withdrawn but all deals with a status that does not equal completed. M&A deals are not expected to be successfully closed later than 3 years after the announcement date; most closed deals are completed within half a year after their public announcement. This approach is expected to give more accurate results than excluding certain deal status from the data, which would give a bias to the sample.

The dependent variables in this analysis are the differences in four of Hofstede's cultural dimensions between the target nation Brazil and the acquirer nation. The score of Brazil is subtracted by the score of the acquirer nation in that particular dimension, leading to either a positive or a negative value, indicating how greatly and in which direction the national cultures differ. The differences in these dimensions and, accordingly, the variables for testing the hypotheses are *PDI Diff., IDV Diff., UAI Diff., and LTO Diff*.

Further, some control variables are incorporated that may also affect deal completion. The share an acquirer intends to obtain is measured by the variable *Percentage sought*. According to prior research, higher numbers in this variable stress how much is at stake for both parties, which may negatively affect a deal's approval (Dikova et al. 2010, Zhou et al. 2016). Additionally, the control variable *Target subsidiary* is included. Negotiations with a subsidiary are difficult due to power issues between the parent company and the subsidiary (Muehlfeld et al. 2012). In Brazil, like in

most countries, certain M&A deals are more restricted by political regulations than others. Even though the competition law does not distinguish between industries in terms of merger control, regulated industries dominated by public firms have specific rules that can apply to M&As (Canabrava et al. 2020). Thus, following the literature, the variables T*arget public status* and A*cquirer public status* indicate whether or not the acquiring or the target party is a public firm (Muehlfeld et al. 2012). Dikova et al. (2010) find a significant negative effect of Target subsidiary, Target public status and Acquirer public status on cross-border deal completion for developed markets (Dikova et al. 2010). It is interesting to investigate if this effect is stable when the target firm is based in an emerging market like Brazil. The variable *Industry relatedness* is assumed to positively affect deal completion, as communications may be easier between negotiators with similar areas of expertise. In contrast to other studies on the topic (e.g., Dikova et al. 2010; Zhou et al. 2016), a control variable indicating whether the transaction was predominantly cash- or stock-financed is not incorporated, as only 14.4% of the recorded deals include such information. For simplicity, the differences in the examined cultural dimensions are referred to as "independent variables" in this study. Even though the control and moderator variables are also independent, they are only referred to when they are explicitly mentioned.

Analyzing, among other effects, the impact of distance of PDI and UAI on cross-border deal-completion, prior research finds organizational learning to moderate this effect (Dikovaet al. 2010). Also, Popli and Kumar (2016) report that a focal firm's prior activities can reduce the negative impact of cultural distance on cross-border deal completion with acquirers from emerging markets (Popli and Kumar 2016). Hence, the moderator variable *Experience* is included in this analysis. Assuming that firms learn from M&A deals, which they attempted in the same host country up to 10 years before the deal under study, the firm's deals within this time span are numbered with ordinal numbers. The higher this number, the more this deal is expected to

moderate the effect of cultural distance on deal completion. Some scholars prove different effects of experience, depending on if prior deal attempts were closed or abandoned (e.g., Muehlfeld et al. 2012); however, this paper's focus is not to determine the exact effect of experience. Thus the general moderator variable experience is incorporated, counting both experiences in successfully closed and failed deals. A detailed overview and an explanation of all variables in this analysis are presented in Appendix C.

3.3 Statistical method

This study estimates a binary logistic regression model, with *Deal completion* as the dependent variable. The observations included in the analysis are announced M&A deals by firms of which a part made several deal attempts within the examined time span. A total of 36,2% of deals under investigation are not the first attempt of the acquiring party over the sampling period, and some acquirers attempted multiple M&A transactions in Brazil. Therefore, the data must not be treated as a pooled cross-section that ignores the within-firm correlation in the error term and treats each deal as an independent observation. The models are estimated with panel data techniques that address these within-firm correlations. As the number of acquisition attempts varies by firm, the sample makes up an unbalanced panel. Hence, following the approach of studies with similar data and research efforts (e.g., Dikova et al. 2010), this study estimates models using clustered standard errors that account for within-firm correlation, which is similar to using a random effects estimation, yet accounts for the lack of independence of the observations and indicates consistent estimates across a wide range of possible correlations (Muehlfeld et al. 2012).

4. Results

4.1 Summary statistics

Appendix D presents the standard summary statistics. Brazil is assigned a score of 69.00 in PDI, which indicates that the nation reflects a society which respects hierarchies. Most companies in

the sample are based in countries that score lower in PDI and thus accept inequalities and hierarchies considerably less, as the mean difference of –21.78 in the PDI Diff. variable shows. The nation in the sample which goes furthest in this direction and is Austria, showing a difference of –58.00 compared to Brazil. PDI Diff. further demonstrates a high standard deviation, indicating that the cultural differences in this dimension are spread out over a wide range. With a score of 38.00 in IDV, Brazil values long-lasting relationships. Most firms in the sample are based in nations with a higher IDV. This is largely due to the high number of deals by acquirers from the USA, showing the highest cultural distance in this dimension with a score of +53.00 compared to Brazil. With 76.00 in the UAI dimension, Brazil shows a strong need for rules and elaborate legal systems. The mean distance of –17.35 indicates that most analyzed deals are initiated from nations with a lower UAI. Singapore stands out in particular, with the greatest distance to Brazil of –68.00 in this dimension. Brazil scores as an intermediate in LTO, not showing an extreme attitude towards time-honored traditions or pragmatic approaches when preparing for the future. Most of the deals included in the sample are attempted by firms from nations with a similar value in this dimension.

Moreover, most attempted M&A deals seek a majority of shares after deal closure. Also, a total of 37.1% of target firms in the sample are subsidiaries of larger companies. Additionally, 6.4% of the target parties and 51.9% of the acquiring parties of the recorded deals hold a public status. Further, most of the analyzed deals are announced by companies who record no M&A experience in Brazil in the ten years before their focal attempt to close a deal. In 63.8% of the observations, it is the firm's first attempt in 10 years; in 17.2%, it is the second attempt; experience with two or more deals is rarely recorded in the sample. Finally, around half of the attempted deals involve firms that operate in the same mid industry.

The correlation matrix indicates that there are significant correlations between the examined variables, which can be a sign of multicollinearity (Appendix E). However, it is not surprising that cultural dimensions, which are often combined in one cultural index, show a certain degree of correlation. Since this study is interested in all independent variables as each tests a different hypothesis, and each control variable is expected to be critical for the analysis, no variable is excluded. Additionally, according to Midi et al. (2010), better multicollinearity diagnostics are produced by calculating the variance inflation factors (VIFs). VIFs with values above 2.5 may be a cause of concern (Midi et al. 2010). Yet, none of the variables in this analysis show a VIF higher than 2.5 (Appendix F). Even though VIFs are still the most common measure to test for multicollinearity testing and often the best solution to check for multicollinearity issues, they are heavily criticized among statisticians. Therefore, additional Belsley-Kuh-Welsch collinearity diagnostics are applied. This index also shows no evidence for excessive collinearity, suggesting that multicollinearity is not a problem in this analysis. Following Dikova et al. (2010), no standard multicollinearity corrections, such as mean-centering, are applied, as these measures can produce misleading collinearity diagnostics (Dikova et al. 2010). However, the robustness of the variables is tested in models with gradually added independent variables, explained in detail later.

4.2 Analysis results

Different models present the results of the binary logistic regressions and test the hypotheses. Model 1 includes only the control variables; in Model 2, all independent variables are added. Model 3 further incorporates the moderator variable, before in Model 4, the interaction terms of the moderator variable are added (Appendix G). The results further report coefficients, standard errors, the value of the likelihood function at convergence, and the Wald chi-square test's value for the null hypothesis that all the coefficients associated with the independent variables are simultaneously equal to zero. The null hypothesis can be rejected for all models as their p-values

are significant at the 1% level. The low R^2 indicates a relatively low explanatory power of the models, which is in accordance with prior studies (e.g., Dikova et al. 2010; Popli and Kumar 2016). Yet, this study's focus is more on the contribution of theoretically motivated covariates than the explanation of the possible variations of deal completion.

Some control variables produce significant estimates consistently across all models. Target subsidiary, Target public status, and Acquirer public status are significant in predicting the likelihood of deal completion in all models ($p<0.01$). While Dikova et al. (2010) observed the same effect with developed markets involved, this study empirically confirms it for deals of foreign companies that target firms in the emerging market Brazil. Shares sought, and Industry relatedness do not indicate a significant effect on deal completion, which is in line with what is found for developed markets (Dikova et al. 2010), yet contradicting the significant positive effect on deal completion that is reported for cross-border M&As with emerging markets involved (Zhou et al. 2016).

The results of the logistic regression show no support for Hypothesis 1, as PDI Diff. indicates no significant effect on the dependent variable ($p>0.1$) across Models 1-4. This observation, suggesting that the distance in PDI between the acquirer firm's and the target firm's home nations does not affect the likelihood of deal completion for cross-border M&As to Brazil, is not consistent with what is proven regarding developed markets and what Hypothesis 1 assumes to be applicable in the event that the target firm is based in an emerging market.

Further, Hypothesis 2 finds no empirical support, as IDV Diff. has a highly significant but positive effect on deal closure ($p<0.01$). This indicates that a greater distance in IDV between the involved parties positively affects the completion of a cross-border deal targeting Brazilian firms. A similar result is found when testing Hypothesis 3. Distance in UAI significantly and positively affects the likelihood of deal completion in this analysis ($p<0.01$) and shows very similar

coefficients and standard errors to IVD Diff. Thus, Hypothesis 2 and 3 cannot be accepted, as a negative and highly significant impact on the dependent variable is expected, but a positive effect is recorded. Prior studies have not analyzed the effect of distance in these two cultural indices, apart from Dikova et al. (2010), who find a significant but negative effect of distance in UAI, as assumed in Hypothesis 3. Finally, unlike hypothesized, LTO Diff. shows a negative but insignificant effect on deal completion ($p>0.1$). Hypothesis 4 assumes the distance in the UAI to be detrimental to the completion of a cross-border M&A deal targeting firms in Brazil. A negative result is recorded; however, it is not significant, suggesting no evidence for Hypothesis 4.

When the moderating variable experience is incorporated, as presented in Model 3-4 of this analysis, neither the coefficients of the variable itself nor the coefficients of the interaction terms between the independent variables and experience are significant ($p>0.1$). Against initial assumptions, there is no evidence that experience moderates the effect of the independent variables on the dependent variable. Results from prior studies suggest a significant effect of experience on deal completion as firms are assumed to learn from their prior deal attempts and complete the negotiation phase more successfully with that experience. However, some scholars differentiate between previous M&A successes and failures and find a positive and negative effect, respectively, thus, the general variable experience may offset these opposing effects.

According to Brooks (2014), the interpretation of the coefficients resulting from a binary logistic regression needs slight care. It is incorrect to interpret this statistical method's coefficients like the coefficients in a linear regression model (Brooks 2014). The value and significance of coefficients in non-linear models like the binary logistic regression model do not necessarily indicate the size of the effect, which is why, for better illustration, the changes in the probability of deal completion when a particular variable is increased by one unit is calculated for Model 2. When the control variables target subsidiary, target public status, and acquirer public status, who

demonstrate negative, significant coefficients, are increased by one unit while all other variables are fixed at their means, the probability of a deal being closed decreases by 14.00%-20.30%, depending on the variable considered. Increasing UAI Diff. or LTO Diff. by one unit decreases the probability of deal completion by 2.00%. In contrast to the control variables, the independent variables' effect with significant coefficients on the dependent variable is rather low.

Some robustness tests are conducted to test the results of this analysis. First, to test whether a variation of the independent variables changes any results, the variables recording the differences in PDI, IDV, UAI, and LTO are gradually added (Appendix H). While the coefficients of the other control, independent, and moderator variables are stable across all model specifications, PDI Diff. indicates a significant negative effect on deal closure in Model 5 ($p<0.1$). This result for itself would support Hypothesis 1; however, the overall aim of this study is to investigate the effect of distance in several cultural factors. As the models including more independent variables better reflect this research question, Models 6, 7 and 3, where the coefficients of PDI Diff. variable changes to positive, insignificant coefficients, are regarded as more relevant.

Second, a different measure of cultural distance seeks to check the robustness of the results (Appendix I). The commonly used approach of Kogut and Singh (1988) is followed, who calculate a composite variable of cultural distance being the sum of the distances on individual cultural dimensions (Kogut and Singh 1988). The composite cultural distance index incorporated analysis and presented in Model 8-9 indicates positive but non-significant coefficients also in interaction with the independent variables. This is not surprising, as the study finds the differences in several cultural dimensions to be either significant and non-significant and both positive or negative; hence the composite variable seems to balance this out. What is evident is that the significance of the control variable does not change with an alternative culture variable.

Third, to test for the obsolescence of experience, the time window of the recorded experience for the moderator variable is enlarged in Model 10 and 12 (Appendix J). A variation of the experience variable measures whether it is significant when all attempted cross-border M&A transactions of a firm that target the Brazilian market 20 years or less prior to the focal deal are included, in contrast to the 10 years of recorded experience of the initial analysis. Also this robustness check does not demonstrate any changes in the significance of any coefficients. As the sample does not record many deal attempts of acquirers with attempted deals that are far apart in time, taking a 20 years window instead of a 10 years window shows almost no changes in the resulting coefficients, their significance, and the standard errors.

Even though no hypothesis in this paper is supported by this analysis, two independent variables are proven to be significant in predicting the likelihood of cross-border M&A deal completion of companies targeting firms in Brazil in the analyzed time period. This result, next to the other unsupported hypotheses, contributes to prior literature. This will become clear in the following section, which discusses the results of this analysis.

5. Discussion

Little is known in international business about the effects of national cultural distance on the phases before a cross-border M&A deal is closed. However, literature agrees that national culture has a great influence on the dynamics of M&As and that many M&A transactions fail between the announcement and the signing of the deal. This paper focuses on answering how national cultural distance impacts the deal-completion of cross-border M&As targeting firms in Brazil, for different reasons: First, this work distinguishes from prior literature as it examines the differences in several cultural dimensions separately. Second, the analysis covers a time period where the development of technology, the globalization of country economies, and the spread of the Internet may have made real culture clashes less likely. Thirdly, prior literature reports confusing results,

and studies focussing on deal completion and on emerging markets are rare. Therefore, this paper explores the effect of cultural distance on deal closure in the emerging market Brazil.

A model was proposed to test four hypotheses, expecting differences in four cultural dimensions to be obstacles in the negotiation phase of cross-border M&As to Brazil and negatively influencing the likelihood of deal completion. Hofstede's cultural dimensions were applied to measure cultural realities. In the literature, some opinions claim these indices to be imprecise. However, many arguments favor the dimensions' explanatory power, especially underlining how extensive and elaborated these indices are. Besides, the literature states that there are no superior, reliable alternatives (e.g., Drogendijk and Slangen 2006, Morosini et al. 1998), which is why Hofstede's dimensions are the foundation of most cross-cultural business studies and also of this paper. All hypotheses adopted in this study built on what previous M&A theory has found, albeit mainly for developed markets, and therefore assumed a negative effect of cultural differences on cross-border M&A negotiations and finally deal completion. Even though none of the hypotheses found empirical support, several conclusions can be drawn from the analysis.

The results reveal that in addition to the hypothesized context, the likelihood of deal completion is strongly related to the companies' status. When one of the firms is public, or the target firm is a subsidiary of a larger firm, the likelihood that this deal is closed significantly decreases. Differences in the PDI and LTO between the acquirer country and Brazil record no significant effect on the likelihood of deal closure, indicating that cultural distance in these dimensions is not as detrimental as expected. Distance in the IDV and UAI shows a significant yet modest positive effect on deal completion. These findings differ from what previous studies have found, which may have various reasons. This study focuses on cross-border M&As targeting firms in Brazil. No literature has addressed this exact topic; hence studies investigating the effect of national cultural distance on different M&A stages, on M&A deals in developed markets or the impact of

other factors on M&A deal completion in emerging markets such as experience, can hardly predict the outcome of this analysis. The findings suggest that in the pre-deal phases of an M&A to the emerging market Brazil, cultural distance does not have the strong negative effect that is widely assumed in international business. They even suggest that distance in some dimensions can have a positive effect. Even though this is only an assumption which has not been further investigated, Very et al. (1997) argue that most of what we know about culture clashes comes from case studies and press coverage in the popular business press, and both sources may be biased in favor of reporting about failing M&As (Very et al. 1997). This could be a reason why national cultural distance is often blamed for being of disadvantage in cross-border deals.

However, it is wrong to state that cultural distance is not an obstacle but an advantage for cross-border M&A negotiations. Managers must take culture into account to improve the deal completion rate of such transactions. Lubatkin et al. (1998) and Larsson and Risberg (2013), who find positive effects of cultural distance on M&A dynamics, yet on post-deal phases, do not argue that cultural distance is not an issue, but rather that managers from countries with a great cultural difference are more careful about cultural disparities. This may also be a reason for the significant, positive effects of IDV Diff and UAI Diff on deal completion in this study. Countries with great differences to Brazil in these two dimensions may take special care in the negotiation process of an M&A, such as hiring experts, native speakers, and interpreters for the negotiation phase. In contrast, countries with a similar national culture in terms of IDV and UAI might be less careful about obstacles that arise from cultural distance.

Apart from drawing the attention to the deal negotiation phase as an important stage of cross-border M&A and to the complexity of predicting the likelihood of deal completion, which must be studied in order to avoid great losses in international businesses transactions, another practical managerial implication of this paper is that cultural factors must be given a high level of attention

when negotiating a cross-border M&A deal targeting firms in an emerging market. Even though economies internationalize and cultural differences become more present in people's minds, cultural disparity is still an important challenge to overcome and must be included in a firm's pre-deal strategy. M&A transactions, especially with emerging markets involved, are risky strategies with a highly complex procedure. Already in the pre-deal phase, the involved companies must overcome a great number of obstacles. However, all these obstacles cannot be incorporated in a single study, which is one of several limitations that should be pointed out. Some limitations were already mentioned earlier, such as the fact that the percentage of consideration paid in cash could not be considered in this study due to a lack of data on this aspect. Further, the sample only captures deals that have been publicly announced. M&A deals that were performed completely in private could not be included in the study. What is more, this study focusses regionally on Brazil only, thus, no conclusions can be drawn to other emerging markets due to the uniqueness of a country, especially in terms of culture. Finally, the techniques using a limited dependent variable exhibit major shortcomings in their explanatory power (Wiersema and Bowen 2009). Therefore, this study's interpretation and managerial implications are rather suppositions; tangible managerial advice is difficult to derive.

Yet, this paper is a first step in drawing the attention to an important topic in international business, hoping that future research discovers the topic more deeply, investigating more predicting variables and examining the moderating effect of experience in a more detailed way, such as analyzing if a firm's overall M&A experience influences the likelihood whether or not a close a deal in an emerging market. Besides, further studies can examine the generalisability of this study, which focuses on Brazil only, for other emerging markets. It is interesting to find out if deals with other BRICS nations involved show similar results.

6. References

Brooks, Chris. 2014. *Introductory Econometrics for Finance. Introductory Econometrics for Finance*. 3rd Ed. Cambridge: Cambridge University Press.

Canabrava, Leonardo, Lucas Spadano, Bruno Augustin and Dandara Perassa, and Fialho Salles Advogados. 2020. "Merger control in Brazil: overview" Accessed December 11, 2020. https://uk.practicallaw.thomsonreuters.com/4-501-1911?transitionType=Default&contextData=(sc.Default)&firstPage=true.

Capital Invest. 2020. "How to invest in Brazil: 2020 Brazilian M&A Guide." Accessed December 02, 2020. https://www.capitalinvest-group.com/pt/invest-in-brazil-ma-guide/#why-invest-in-brazil-benefits-and-risks.

Cartwright, Sue. 1998. "International Mergers and Acquisitions: The Issues and Challenges." *Cultural Dimensions of International Mergers and Acquisitions* 85: 5-16. 85.5.16. doi:10.1515/9783110808797.5.

David, Kenneth, and Harbir Singh. 1994. "Sources of Acquisition Cultural Risk." *The Management of Corporate Acquisitions*: 251-292. doi:10.1007/978-1-349-13016-0_10.

Deloitte. 2020. "Distribution of mergers and acquisitions (M&A) activity in Brazil in 2019, by origin of investment." Chart. Statista. Accessed December 04, 2020. https://www.statista.com/statistics/729498/mergers-acquisitions-origin-of-investment-brazil-number/

Dikova, Desislava, Padma Rao Sahib, and Arjen Van Witteloostuijn. 2010. “Cross-Border Acquisition Abandonment and Completion: The Effect of Institutional Differences and Organizational Learning in the International Business Service Industry, 1981-2001.” *Journal of International Business Studies* 41 (2): 223-45. doi:10.1057/jibs.2009.10.

Dong, L., Li, X., McDonald, F., & Xie, J. (2019). Distance and the completion of Chinese cross-border mergers and acquisitions. Baltic Journal of Management.

Drogendijk, Rian, and Arjen Slangen. 2006. “Hofstede, Schwartz, or Managerial Perceptions? The Effects of Different Cultural Distance Measures on Establishment Mode Choices by Multinational Enterprises.” *International business review*, *15*(4): 361-380. doi:10.1016/j.ibusrev.2006.05.003.

Gallo, Fabiano, Carolina Marcondes Sant’Angelo, Carla Steinberg, and Breno Cintra. 2020. “M&A Report 2020: Brazil.” Accessed December 02, 2020. https://www.iflr.com/article/b1lmx675qf4bnf/mampa-report-2020-brazil#:~:text=Looking%20back%2C%202019%20was%20a,27%25%20as%20compared%20to%202018.

Galpin, Timothy.J. 2014. *The Complete Guide To Mergers and Acquisitions: Process Tools To Support M&a Integration At Every Level.* San Francisco: Jossey-Bass.

Gelfand, Michele J., Marianne Higgins, Lisa H. Nishii, Jana L. Raver, Alexandria Dominguez, Fumio Murakami, Susumu Yamaguchi, and Midori Toyama. 2002. "Culture and Egocentric Perceptions of Fairness in Conflict and Negotiation." *Journal of Applied Psychology*, *87*(5): 833. doi:10.1037/0021-9010.87.5.833.

Hayes, Adam. 2020. "Mergers and Acquisitions – M&A" Accessed December 15, 2020. https://www.investopedia.com/terms/m/mergersandacquisitions.asp.

Hitt, Michael A., R. Duane Ireland, and Rober E. Hoskisson. 2016. *Strategic management: Concepts and cases: Competitiveness and globalization*. Cengage Learning.

Hofstede, Geert. 2011. "Dimensionalizing Cultures: The Hofstede Model in Context." *Online Readings in Psychology and Culture* 2(1):8. doi:10.9707/2307-0919.1014.

Hofstede, Geert, Gert Jan Hofstede, and Michael Minkov. 2005. *Cultures and organizations: Software of the mind*. Revised and Expanded 3rd Edition. New York: McGraw-Hill.

Imaa. 2020a. "M&A Statistics." Accessed December 09, 2020. https://imaa-institute.org/mergers-and-acquisitions-statistics/

Imaa. 2020b. "M&A Statistics by Transaction Type." Accessed December 09, 2020. https://imaa-institute.org/m-and-a-statistics-transaction-type/

Johanson, Jan, and Jan-Erik Vahlne. 1977. “The Internationalization Process of the Firm—A Model of Knowledge Development and Increasing Foreign Market Commitments.” *Journal of International Business Studies* 8(1): 23-32. doi:10.1057/palgrave.jibs.8490676.

Krug, Jeffrey A., and W. Harvey Hegarty. 1997. “Postacquisition Turnover among U.S. Top Management Teams: An Analysis of the Effects of Foreign vs. Domestic Acquisitions of U.S. Targets.” *Strategic Management Journal* 18, no. 8: 667-675. doi:10.1002/(SICI)1097-0266(199709)18:8<667::AID-SMJ918>3.0.CO;2-E.

Kogut, Bruce, and Harbir Singh. 1988. “The Effect of National Culture on the Choice of Entry Mode.” *Journal of International Business Studies*, Vol. 19, No. 3: 411-432. doi:10.1057/palgrave.jibs.8490394.

Larsson, Rikard, and Anette Risberg. 2013. “Cultural Awareness and National versus Corporate Barriers to Acculturation.” *Cultural Dimensions of International Mergers and Acquisitions*: 39-56. doi:10.1515/9783110808797.39.

Lebedev, Sergey, Mike W. Peng, En Xie, and Charles E. Stevens. 2015. “Mergers and Acquisitions in and out of Emerging Economies.” *Journal of World Business*, *50*(4): 651-662. doi:10.1016/j.jwb.2014.09.003.

Lubatkin, Michael, Roland Calori, Philippe Very, and John F. Veiga. 1998. “Managing Mergers Across Borders: A Two-Nation Exploration of a Nationally Bound Administrative Heritage.” *Organization Science*, no. 6: 670-684. doi:10.1287/orsc.9.6.670.

Midi, Habshah, S. K. Sarkar, and Sohel Rana. 2010. "Collinearity Diagnostics of Binary Logistic Regression Model." *Journal of Interdisciplinary Mathematics* 13.3 2010: 253-267. doi:10.1080/09720502.2010.10700699.

Morosini, Piero, Scott Shane, and Harbir Singh. 1998. "National Cultural Distance and Cross-Border Acquisition Performance." *Journal of international business studies* 29, no. 1: 137-158. doi:10.1057/palgrave.jibs.8490029.

Muehlfeld, Katrin, Padma Rao Sahib, and Arjen Van Witteloostuijn. 2012. "A Contextual Theory of Organizational Learning from Failures and Successes: A Study of Acquisition Completion in the Global Newspaper Industry, 1981-2008." *Strategic Management Journal*, *33*(8): 938-964. doi:10.1002/smj.1954.

Olie, René. 1990. "Culture and Integretion Problems in International Mergers and Acquitions." *European Management Journal* 8, no. 2: 206-215. doi:10.1016/0263-2373(90)90088-N.

Pitkethly, Robert, David Faulkner, and John Child. 2003. "Integrating Acquisitions." *Advances in mergers and acquisitions* 2: 27-57. doi:10.5465/amr.1985.4279089.

Popli, Manish, and Vikas Kumar. 2016. "Jumping from Springboard? The Role of Marginal Cultural Distance in Cross-Border M&A Deal Completion." *Thunderbird International Business Review*, *58*(6): 527-536. doi:10.1002/tie.21759.

Reis, Nuno R., Manuel P. Ferreira, and João Carvalho Santos. 2013. "Institutional distance and cross-border mergers and acquisitions completion: A conceptual framework.*"* Accessed December 11, 2020. http://www3.eeg.uminho.pt/economia/nipe/iibc2013/4.2.pdf.

Sales, Augusto Cesar Silva, and Marco Tulio Fundão Zanini. 2017. "Investigating the Deal Making Failure in M&A: Deal Makers' Perspective in Brazil." *Revista de Administração (São Paulo)*, *52*(4): 467-478. doi:10.1016/j.rausp.2016.11.002.

Slangen, Arjen H.L. 2006. "National Cultural Distance and Initial Foreign Acquisition Performance: The Moderating Effect of Integration." *Journal of World Business* 41, no. 2: 161-170. doi:10.1016/j.jwb.2006.01.003.

Stahl, Günter K., and Andreas Voigt. 2008. "Do Cultural Differences Matter in Mergers and Acquisitions? A Tentative Model and Examination." *Organization Science*, 19(1): 160-176. doi:10.1287/orsc.1070.0270.

Tse, David K., June Francis, and Jan Walls. 1994. "Cultural Differences in Conducting Intra- and Inter-Cultural Negotiations: A Sino-Canadian Comparison." *Journal of International Business Studies* 25, no. 3: 537-555. doi:10.1057/palgrave.jibs.8490211.

Weber, Yaakov, Shlomo Y. Tarba, and Arie Reichel. 2011. "A Model of the Influence of Culture on Integration Approaches and International Mergers and Acquisitions Performance." *International Studies of Management & Organization* 41, no. 3 (2011): 9-24. doi:10.2753/IMO0020-8825410301.

Wiersema, Margarethe F., and Harry P Bowen. 2009. The use of limited dependent variable techniques in strategy research: Issues and methods. *Strategic management journal*, *30*(6): 679-692 doi:10.1002/smj.758.

Very, Philippe, Michael Lubatkin, Roland Calori, and John Veiga. 1997. "Relative Standing and the Performance of Recently Acquired European Firms." *Strategic management journal* 18, no. 8: 593-614. doi:10.1002/(sici)1097-0266(199709)18:8<593::aid-smj899>3.0.co;2-i.

Zhou, Chenxi, Jinhong Xie, and Qi Wang. 2016. "Failure to Complete Cross-Border M&As: 'To' vs. 'from' Emerging Markets." *Journal of International Business Studies* 47.9: 1077-1105. doi:10.1057/s41267-016-0027-y.

Zhou, Chenxi, Jinhong Xie, and Qi Wang. "Failure to complete cross-border M&As:"to" vs."from" emerging markets." *Journal of International Business Studies* 47.9 (2016): 1077-1105.

7. Appendix

Appendix A

Individualism vs. collectivism (IDV) describes the preference for either strong or loose social relationships. In cultures with a high individualism, people usually look after themselves and their immediate family only; in collective cultures, people expect all group members to take care of one another in exchange for loyalty (Hofstede et al. 2010).

Masculinity vs. femininity (MAS) describes the extent to which a society is either competitive or consensus-oriented. A high score in masculinity indicates a preference for achievement, heroism, assertiveness and material rewards; a low score stands for cooperation, modesty, caring for the weak, and quality of life (Hofstede et al. 2010).

The *Uncertainty Avoidance Index (UAI)* shows whether a society is comfortable taking risks. Cultures with a high uncertainty avoidance level adhere to rigid codes of belief and behavior; in countries with less uncertainty avoidance, people have a more relaxed attitude and practice counts more than principles (Hofstede et al. 2010).

Long Term Orientation (LTO) represents whether a country confronts future challenges by sticking to past patterns or more by embracing new methods. A high score in this dimension means that a culture encourages thrift and modern education efforts to prepare for the future. Societies with lower scores maintain time-honored traditions and norms while viewing change with suspicion (Hofstede et al. 2010).

Finally, *Indulgence vs. Restraint (IVR)* indicates whether a society accepts a person's self-realization. Cultures scoring high in this dimension allow satisfaction in terms of pleasure, fun, and personal freedom, while a low score suggests that a country applies strict social norms to suppress the gratification of needs (Hofstede et al. 2010).

Appendix B

Acquirer nations and deal attempts

Acquirer Nation	Frequency	Percent	Cumulative Percent
Argentina	20	1.1	1.1
Australia	51	2.7	3.7
Austria	8	.4	4.2
Belgium	14	.7	4.9
Canada	145	7.6	12.5
Chile	40	2.1	14.6
China	48	2.5	17.1
Colombia	16	.8	18.0
Denmark	7	.4	18.3
Estonia	1	.1	18.4
Finland	8	.4	18.8
France	153	8.0	26.9
Germany	69	3.6	30.5
Greece	1	.1	30.5
Hong Kong	14	.7	31.3
Hungary	2	.1	31.4
India	27	1.4	32.8
Ireland-Rep	11	.6	33.4
Israel	16	.8	34.2
Italy	55	2.9	37.1
Japan	75	3.9	41.0
Latvia	1	.1	41.1
Luxembourg	40	2.1	43.2
Malaysia	3	.2	43.4
Mexico	24	1.3	44.6
Morocco	2	.1	44.7
Netherlands	53	2.8	47.5
New Zealand	1	.1	47.6
Norway	21	1.1	48.7
Portugal	29	1.5	50.2
Russian Fed	13	.7	50.9
Singapore	16	.8	51.7
South Korea	18	.9	52.7
Spain	97	5.1	57.8
Sweden	27	1.4	59.2
Switzerland	54	2.8	62.0
Taiwan	2	.1	62.1
Thailand	1	.1	62.2
United Kingdom	126	6.6	68.8
United States	580	30.5	99.3
Uruguay	2	.1	99.4
Utd Arab Em	10	.5	99.9
Venezuela	2	.1	100.0
Total	1903	100.0	

Appendix C

Variable descriptions

Variable name	Measurement	Source
Dependent Variable		
Deal completion	Dummy, dichotomous variable which equals: 1 if announced M&A deal is completed 0 if announced M&A deal is not completed	Thomson Reuters' SDC - Mergers and Acquisitions
Independent Variables		
PDI Diff.	PDI Diff. = PDI score of aquirer – 69	Hofstede et al. 2010
IDV Diff.	IDV Diff. = IDV score of acquirer – 38	Hofstede et al. 2010
UAI Diff.	UAI Diff. = UAI score of acquirer – 76	Hofstede et al. 2010
LTO Diff.	LTO Diff. = LTO score of acquirer – 44	Hofstede et al. 2010
Control Variables		
Percentage Sought	Percentage of stake ownership sought by acquirer	Thomson Reuters' SDC - Mergers and Acquisitions
Acquirer Public Status	Dummy variable which equals: 1 if acquirer has public status 0 if acquirer does not have public status	Thomson Reuters' SDC - Mergers and Acquisitions
Target Public Status	Dummy variable which equals: 1 if target has public status 0 if target does not have public status	Thomson Reuters' SDC - Mergers and Acquisitions
Target Subsidiary	Dummy variable which equals: 1 if target is subsidiary of larger firm 0 if target is not subsidiary of larger firm	Thomson Reuters' SDC - Mergers and Acquisitions
Industry Relatedness	Dummy variable which equals: 1 if acquirer and target operate in same mid-industry 0 if acquirer and target do not operate in same mid-industry	Thomson Reuters' SDC - Mergers and Acquisitions
Moderator Variable		
Experience	Ordinary number counting number of deal attempts in Brazil up to 10 years prior to focal deal	Thomson Reuters' SDC - Mergers and Acquisitions
Robustness tests		
Alternative Experience	Ordinary number counting number of deal attempts in Brazil up to 20 years prior to focal deal	Thomson Reuters' SDC - Mergers and Acquisitions
Composite Cultural Distance	$CDj = \sum 4\ i=1\ \{(Iij - Iiu)^2 / Vi\}/4$ *	Hofstede et al. 2010

* where Iij stands for the index for the ith cultural dimension and jth country, Vi is the variance of the index of the ith dimension, u indicates Brazil, and CDj is cultural difference of the jth country from Brazil (based on: Koguth and Singh 1998)

Appendix D

Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation
Deal Completed Flag	0	1	.74	.440
Percentage of Shares Sought	0.40	100.00	73.02	33.25
Acquirer public status	0	1	.52	.500
Target public status	0	1	.06	.245
Target subsidiary	0	1	.37	.483
Industry Relatedness	0	1	.51	.500
Power Distance Index	-58.00	35.00	-21.78	14.97
Individualism	-26.00	53.00	32.67	22.64
Uncertainty Avoidance	-68.00	36.00	-17.36	20.66
Long term orientation	-30.90	56.17	2.15	22.05
Experience in Host Country	1	18	2.01	2.11

Appendix E

Correlations

	Deal Completed Flag	Percentage of Shares Sought	Target subsidiary	Target public status	Acquirer public status	Industry Relatedness	Experience in Host Country	Power Distance Index	Individualism	Uncertainty Avoidance	Long term orientation
Deal Completed Flag	1										
Percentage of Shares Sought	.065**	1									
Target subsidiary	-.151**	-.042	1								
Target public status	-.054*	-.363**	-.201**	1							
Acquirer public status	-.150**	.093**	.018	-.109**	1						
Industry Relatedness	-.046*	.074**	.007	-.102**	.155**	1					
Experience in Host Country	-.035	-.032	-.045	.025	.137**	-.003	1				
Power Distance Index	-.054*	-.072**	.078**	-.017	-.039	.023	.056*	1			
Individualism	.102**	.125**	-.117**	-.019	.004	-.036	-.053*	-.678**	1		
Uncertainty Avoidance	.028	-.050*	.001	.036	.005	.054*	.088**	.440**	-.473**	1	
Long term orientation	-.069**	-.095**	.078**	-.033	.056*	.033	-.012	.307**	-.445**	.310**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Appendix F

Variance Inflation Factors

	VIF
Percentage of Shares Sought	1.199
Target Subsidiary	1.078
Target Public Status	1.240
Acquirer Public Status	1.067
Industry Relatedness	1.038
Experience	1.037
Power Distance Index Difference	1.927
Individualism Difference	2.222
Uncertainty Avoidance Difference	1.374
Long Term Orientation Differences	1.286

Minimum possible value = 1.0; Values > 10.0 may indicate a collinearity problem

VIF(j) = $1/(1 - R(j)^2)$, where R(j) is the multiple correlation coefficient between variable j and the other independent variables

Appendix G

Results acquisition completion				
Variables	Acquisition completion			
	Model 1	Model 2	Model 3	Model 4
	Controls only	Cultural Difference	Cultural Difference and experience	Cultural Difference and Experience Interaction
Intercept	1.715*** (0.184)	1.626*** (0.209)	1.682*** (0.222)	1.656*** (0.229)
Percentage of Shares Sought	0.003 (0.002)	0.002 (0.002)	0.002 (0.001)	0.001 (0.002)
Target subsidiary	−0.790*** (0.121)	−0.739*** (0.123)	−0.745*** (0.124)	−0.744*** (0.125)
Target public status	−0.885*** (0.263)	−0.947*** (0.268)	−0.945*** (0.268)	−0.949*** (0.269)
Acquirer public status	−0.754*** (0.120)	−0.768*** (0.122)	−0.754*** (0.123)	−0.755*** (0.124)
Industry relatedness	−0.142 (0.129)	−0.146 (0.129)	−0.148 (0.130)	−0.151 (0.130)
Power Distance Diff.		0.000 (0.005)	0.000 (0.005)	0.003 (0.007)
Individualism Diff.		0.010** (0.0041)	0.010** (0.004)	0.013** (0.005)
Uncertainty avoidance Diff.		0.0103*** (0.003)	0.012*** (0.003)	0.011** (0.004)
Long term orientation Diff.		−0.003 (0.003)	−0.003 (0.003)	−0.001 (0.004)
Experience			−0.023 (0.030)	−0.0122 (0.051)
Power Distance Diff. x Experience				−0.002 (0.002)
Individualism Diff. x Experience				−0.001 (0.002)
Uncertainty avoidance Diff. x Experience				−6.868 (0.002)
Long term orientation Diff. x Experience				0.000 (0.001)
Cases in Analysis	1903	1903	1903	1903
Log-Likelihood	−1039.489	−1027.198	−1026.774	−1026.199
Wald Chi-Square	110.856***	135.437***	136.286***	137.435***
R-Squared	0.051	0.062	0.062	0.049

*p<0.10, **p<0.05 and ***p<0.01 (standard errors of the parameters are clustered at acquirer firm level and presented in parenthesis)

Appendix H

Robustness Check Variables				
	Acquisition completion			
	Model 5	Model 6	Model 7	Model 3
Variables	Controls + Power Distance Diff.	Controls + Power Distance Diff. + Individualism Diff.	Controls + Power Distance Diff. + Individualism Diff. + Uncertainty Avoidance Diff.	Cultural Difference and experience
Intercept	1.616*** (0.216)	1.546*** (0.219)	1.619*** (0.218)	1.682*** (0.222)
Percentage of Shares Sought	0.003 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.001)
Target subsidiary	−0.780*** (0.123)	−0.758*** (0.123)	−0.746*** (0.124)	−0.745*** (0.124)
Target public status	−0.896*** (0.266)	−0.883*** (0.268)	−0.926*** (0.267)	−0.945*** (0.268)
Acquirer public status	−0.753*** (0.122)	−0.747*** (0.122)	−0.762*** (0.122)	−0.754*** (0.123)
Industry relatedness	−0.137 (0.128)	−0.130 (0.129)	−0.146 (0.129)	−0.148 (0.130)
Power Distance Diff.	−0.007* (0.004)	0.002 (0.004)	0.000 (0.005)	0.000 (0.005)
Individualism Diff.		0.009** (0.004)	0.012*** (0.004)	0.010** (0.004)
Uncertainty avoidance Diff.			0.010*** (0.003)	0.012***
Long term orientation Diff.				−0.003 (0.003)
Experience	−0.015 (0.030)	−0.014 (0.030)	−0.022 (0.030)	−0.023 (0.030)
Cases in Analysis	1903	1903	1903	1903
Log-Likelihood	−1037.408	−1033.722	−1027.368	−1026.774
Wald Chi-Square	115.019***	122.39***	135.099***	136.286***
R-Squared	0.053	0.056	0.062	0.062

*p<0.10, **p<0.05 and ***p<0.01 (standard errors of the parameters are clustered at acquirer firm level and presented in parenthesis)

Appendix I

Robustness Check Composite Cultural Distance

Variables	Acquisition completion			
	Cultural Difference		Composit cultural distance index	
	Model 3	Model 4	Model 8	Model 9
	Cultural Difference and experience	Cultural Difference and Experience Interaction	Cultural Difference and Experience	Cultural difference and Experience Interaction
Intercept	1.682*** (0.222)	1.656*** (0.229)	1.657*** (0.233)	1.674*** (0.243)
Percentage of Shares Sought	0.002 (0.001)	0.001 (0.002)	0.003 (0.002)	0.003 (0.002)
Target subsidiary	−0.745*** (0.124)	−0.744*** (0.125)	−0.788*** (0.122)	−0.787*** (0.122)
Target public status	−0.945*** (0.268)	−0.949*** (0.269)	−0.874*** (0.264)	−0.872*** (0.264)
Acquirer public status	−0.754*** (0.123)	−0.755*** (0.124)	−0.746*** (0.122)	−0.746*** (0.125)
Industry relatedness	−0.148 (0.130)	−0.151 (0.130)	−0.136 (0.130)	−0.135 (0.130)
Power Distance Diff.	0.000 (0.005)	0.003 (0.007)		
Individualism Diff.	0.010** (0.004)	0.013** (0.005)		
Uncertainty avoidance Diff.	0.012*** (0.003)	0.011** (0.004)		
Long term orientation Diff.	−0.003 (0.003)	−0.001 (0.004)		
Experience	−0.023 (0.030)	−0.0122 (0.051)	−0.017 (0.029)	−0.025 (0.052)
Power Distance Diff. x Experience		−0.002 (0.002)		
Individualism Diff. x Experience		−0.001 (0.002)		
Uncertainty avoidance Diff. x Experience		−6.868 (0.002)		
Long term orientation Diff. x Experience		0.000 (0.001)		
Composit Cultural Distance Index			0.047 (0.064)	0.033 (0.082)
Composit Cultural Distance Index x Experience				0.006 (0.028)
Cases in Analysis	1903	1903	1903	1903
Log-Likelihood	−1026.774	−1026.199	−1038.860	−1038.824
Wald Chi-Square	136.286***	137.435***	112.114***	112.186***
R-Squared	0.062	0.049	0.051	0.043

**p<0.10, **p<0.05 and ***p<0.01 (standard errors of the parameters are clustered at acquirer firm level and presented in parenthesis)*

Appendix J

Robustness Check Experience 20 years				
Variables	Acquisition completion			
	Experience		Experience 20 years	
	Model 3	Model 4	Model 10	Model 11
	Cultural Difference and experience	Cultural Difference and Experience Interaction	Cultural Difference and Experience	Cultural Difference and Experience Interaction
Intercept	1.682*** (0.222)	1.656*** (0.229)	1.682*** (0.221)	1.660*** (0.229)
Percentage of Shares Sought	0.002 (0.001)	0.001 (0.002)	0.002 (0.002)	0.002 (0.002)
Target subsidiary	−0.745*** (0.124)	−0.744*** (0.125)	−0.744*** (0.124)	−0.744*** (0.125)
Target public status	−0.945*** (0.268)	−0.949*** (0.269)	−0.944*** (0.268)	−0.948*** (0.268)
Acquirer public status	−0.754*** (0.123)	−0.755*** (0.124)	−0.753*** (0.123)	−0.755*** (0.124)
Industry relatedness	−0.148 (0.130)	−0.151 (0.130)	−0.148 (0.129)	−0.151 (0.129)
Power Distance Diff.	0.000 (0.005)	0.003 (0.007)	0.000 (0.005)	0.004 (0.007)
Individualism Diff.	0.010** (0.004)	0.013** (0.005)	0.010** (0.004)	0.014** (0.005)
Uncertainty avoidance Diff.	0.012*** (0.003)	0.011** (0.004)	0.011*** (0.003)	0.011** (0.004)
Long term orientation Diff.	−0.003 (0.003)	−0.001 (0.004)	−0.003 (0.003)	−0.002 (0.004)
Experience	−0.023 (0.030)	−0.012 (0.051)		
Power Distance Diff. x Experience		−0.002 (0.002)		
Individualism Diff. x Experience		−0.001 (0.002)		
Uncertainty avoidance Diff. x Experience		−6.868 (0.002)		
Long term orientation Diff. x Experience		0.000 (0.001)		
Experience 20 years			−0.023 (0.029)	−0.013 (0.051)
Power Distance Diff. x Experience 20 years				−0.002 (0.002)
Individualism Diff. x Experience 20 years				−0.002 (0.002)
Uncertainty Avoidance Diff. x Experience 20 years				0.000 (0.0012)
Long term orientation Diff x Experience 20 years				0.000 (0.001)
Cases in Analysis	1903	1903	1903	1903
Log-Likelihood	−1026.774	−1026.199	−1026.763	−1026.113
Wald Chi-Square	136.286***	137.435***	136.308***	137.608***
R-Squared	0.062	0.049	0.062	0.063

**p<0.10, **p<0.05 and ***p<0.01 (standard errors of the parameters are clustered at acquirer firm level and presented in parenthesis)*